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(54) Title: METHODS AND COMPOSITION FOR SOFT TISSUE FEATURE RECONSTRUCTION

(57) Abstract: This present invention describes methods and compositions useful for the reconstruction of various soft tissue features such as lips, areola, and many other features by taking a mold of the skin feature to be replaced, such as the areola, prior to surgical resection, re-creating the size and shape of the soft tissue feature, for example, the nipple and areola, and making a polymer or biopolymer scaffold that is biocompatible, has the ability to allow the epithelization of the skin cells over the polymer, the capability of cell integration into the body of the scaffold, as well as the capability of infiltration of surrounding nerve fibers into the substance of the scaffold, so that the patient may have the benefit of a reconstructed soft tissues feature that not only has the same size and shape and appearance as the native tissue, but also has functional sensation.

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/041179

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61L27/38 A61L27/44 C12N5/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A61L C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/25396 A (THE REGENTS OF THE UNIVERSITY OF MICHIGAN; UNIVERSITY OF MASSACHUSETTS) 27 May 1999 (1999-05-27) page 2, line 11 - line 23 page 9, line 1 - page 10, line 23 page 12, line 23 - page 13, line 11 page 15, line 21 - page 16, line 12 claims 1,7,8,15,17	1-12
X	WO 99/52356 A (CHARLOTTE-MECKLENBERG HOSPITAL AUTHORITY; HALBERSTADT, CRAIG, R; HOLDE) 21 October 1999 (1999-10-21) page 3, line 7 - line 18 page 9, line 8 - line 28 page 11, line 7 - line 28 page 12, line 11 - line 20 page 12, line 27 - page 13, line 19 page 15, line 11 - line 28	1-12
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *Z* document member of the same patent family

Date of the actual completion of the international search

24 June 2005

Date of mailing of the international search report

05/07/2005

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/041179

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 716 404 A (VACANTI ET AL) 10 February 1998 (1998-02-10) column 6, line 48 - column 8, line 31 column 9, line 60 - column 10, line 16 column 10, line 48 - column 11, line 7; claims 1-11	1-12
A	US 5 041 138 A (VACANTI ET AL) 20 August 1991 (1991-08-20) claims 1-22; figures 1a,1b	1-12
A	LU ET AL.: "Diamond-like carbon as biological compatible material for cell culture and medical application" BIO-MEDICAL MATERIALS AND ENGINEERING, vol. 3, no. 4, 1993, pages 223-228, XP008048975 USA page 224 page 228	1

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2004/041179

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
Although claims 5-12 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/US2004/041179

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